



# DICTIONARY OF MICROBIOLOGY and MOLECULAR BIOLOGY

Second Edition

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**ANAEROBIC DIGESTION.**) (Sulphate, sulphite or thiosulphate cannot be used as terminal electron acceptor.) Fumarate or L-malate can be fermented to acetate and succinate. Optimum growth temperature: 30°C. Optimum pH: 7.2–7.5. Colonies are pink or peach-coloured, translucent to opaque. GC%: ca. 50–63. Type species: *D. acetoxidans*. Strains which are ovoid, with a polar or subpolar flagellum, and which do not use alcohols as substrates have been referred to as '*D. acetexigens*'. [Book ref. 22, pp. 664–666.]

**determinant** (1) (antigenic determinant; determinant group; epitope) (*immunol.*) Of an antigenic macromolecule: any region of the macromolecule with the ability or potential to elicit, and combine with, specific antibody. Determinants exposed on the surface of the macromolecule are likely to be *immunodominant*, i.e. more immunogenic than other (*immunorecessive*) determinants which are less exposed, while some (e.g. those within the molecule) are *non-immunogenic* (*immunosilent*). (See also **ANTIGEN**.)

(2) (*genetics*) A gene or functional gene group.

**detrivore** Any organism (e.g. earthworm, lugworm, bivalve mollusc) which feeds by ingesting detritus (such as soil particles), removing and digesting e.g. adherent micro-organisms, and voiding the residue.

**Detroit-6** An ESTABLISHED CELL LINE derived from human sternal bone marrow; the cells are heteroploid and epithelioid.

**Dettol** See **PHENOLS**.

**Dettol chelate** A disinfectant which contains chloroxylenol (see **PHENOLS**) and EDTA; EDTA potentiates the action of chloroxylenol on Gram-negative bacteria by increasing cell permeability. It is active against e.g. many strains of *Pseudomonas aeruginosa*.

**deuteromycetes** See **DEUTEROMYCOTINA**.

**Deuteromycotina** (**deuteromycetes**; **Fungi Imperfecti**) A non-phylogenetic category originally created for fungi with no known sexual stage; the category still includes fungi with no known sexual stage (and some fungi which form neither conidia nor sexual structures: see **AGNOMYCETALES**), but it also includes the asexual (= anamorphic, conidial or imperfect) stages of various fungi which are now known to have a sexual (= teleomorph or perfect) stage in the **Ascomycotina** or the **Basidiomycotina**.

For convenience, 'Deuteromycotina' is generally treated as a subdivision within the **EUMYCOTA**. The conidium-forming deuteromycetes are arranged into form genera (see **FORM GENUS**) primarily on the basis of the characteristics of their conidia and their modes of conidiogenesis (see **CONIDIUM**). (See also **SACCAR-**

**DOAN SYSTEM.**) The inclusion of a number of form species in a given form genus means only that those fungi have similar asexual stages; such fungi are not necessarily related (and are often unrelated) in an evolutionary sense (as determined by the sexual characteristics of the organisms, when known). Thus, a given form genus may contain e.g. anamorphs corresponding to the teleomorphs of different genera together with **ANA-HOLOMORPHS**. (For convenience, the word 'form' is generally omitted when referring to a form genus, form species etc.) Classification of the deuteromycetes on the basis of their asexual stages facilitates the identification of those members in which the asexual stage is that which is most commonly encountered in nature (and which may form the sexual stage only rarely).

Two classes [Book ref. 64, p. 112]: **COELOMYCETES** and **HYPHOMYCETES**.

**deuterosome** In a eukaryotic cell: a dense region in the cytoplasm which can act as a **MICROTUBULE-ORGANIZING CENTRE** for the *de novo* assembly of a **BASEL BODY**.

**deutomerite** In a cephaline gregarine: the posterior of the two main regions of the (septate) cell (cf. **PROTOMERITE**); it usually contains the nucleus.

**DEV** Duck embryo vaccine (see **RABIES**).

**Devarda's alloy** An alloy containing aluminium (45%), copper (50%) and zinc (5%); it is used e.g. to reduce nitrite and/or nitrate to ammonia.

**devil's grip** *Syn.* **BORNHOLM DISEASE**.

**dew retting** See **RETTING**.

**dxioplectic metachrony** See **METACHRONAL WAVES**.

**dextrans** D-Glucans in which the glucose residues are linked mainly by (1→6)- $\alpha$ -glucosidic bonds; branches are formed by occasional (1→4)- $\alpha$ - and, less frequently, (1→3)- $\alpha$ -linkages. The size of the molecule and the nature and extent of branching depend on the source of the dextran. Extracellular dextrans are produced by a range of microorganisms, sometimes in copious amounts (see e.g. **ROPINESS**); they are obtained commercially from strains of *Leuconostoc mesenteroides* grown anaerobically on sucrose-containing media [Book ref. 62, pp. 1–44]. Dextrans of MW ca. 75,000 are used as plasma volume extenders for blood transfusions; they may be obtained by acid hydrolysis of higher-MW dextrans. Artificially cross-linked dextrans (e.g. 'Sephadex') are used in **GEL FILTRATION**. Dextrans are relatively inert and can withstand autoclaving.

**dextrins** Products of the partial degradation of **STARCH** or **GLYCOGEN** by heat, acid hydrolysis, or enzyme action. *Limit dextrans* are those formed by enzymes that are unable to effect

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